

# STN STRUCTURE SEARCH

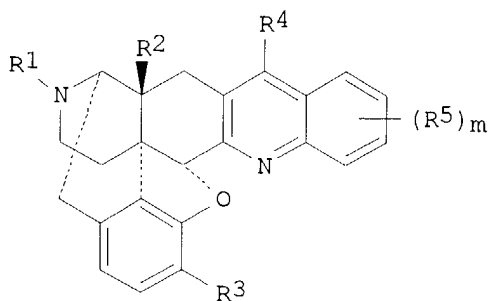
10/031,382

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ANSWER 1 OF 1 CAPLUS COPYRIGHT 2004 ACS on STN  
 16  
 ACCESSION NUMBER: 2001:64001 CAPLUS  
 DOCUMENT NUMBER: 134:116111  
 TITLE: Preparation of quinolinomorphinan derivatives for treatment of **frequent urination** or **urinary incontinence**  
 INVENTOR(S): Tanaka, Toshiaki; Nagase, Hiroshi; Endoh, Takashi; Kawamura, Kuniaki; Fujimura, Morihiro; Komagata, Toshikazu  
 PATENT ASSIGNEE(S): Toray Industries, Inc., Japan  
 SOURCE: PCT Int. Appl., 40 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001005795	A1	20010125	WO 2000-JP4839	20000719
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
EP 1203771	A1	20020508	EP 2000-946400	20000719
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
PRIORITY APPLN. INFO.:			JP 1999-204809	A 19990719
			WO 2000-JP4839	W 20000719
OTHER SOURCE(S):			MARPAT 134:116111	
GI				



I

AB Title compds. I (R1 = H, alkyl, cycloalkyl, aryl, aralkyl, etc.; R2, R3 = H, OH, alkanoyloxy, aralkyloxy, arylcarbonyloxy; R4 = H, alkyl, amino, etc.; R5 = substituent for the benzene ring; m = 0-4 ) and their pharmacol. acceptable acid addition salts, useful for treatment of **frequent urination** or **urinary incontinence**, are prepared. Thus, stirring 17-methyl-6,7-dehydro-4,5 $\alpha$ -epoxy-3,14 $\beta$ -dihydroxy-6,7,2',3'-quinolinomorphinan with

Ac<sub>2</sub>O and pyridine at room temperature for 16 h gave, after salt formation, 17-methyl-6,7-dehydro-4,5 $\alpha$ -epoxy-3,14 $\beta$ -diacetoxy-6,7,2',3'-quinolinomorphinan tartrate (II). II inhibited bladder contraction at 0.3 mg/kg i.v. in rats.

IT 214043-73-9P 214043-90-0P 321187-67-1P  
 321187-69-3P 321187-71-7P 321187-73-9P  
 321187-75-1P 321187-77-3P 321187-79-5P  
 321187-81-9P 321187-83-1P 321187-85-3P  
 321187-88-6P 321187-91-1P 321187-93-3P  
 321187-95-5P 321187-97-7P 321187-99-9P  
 321188-01-6P 321188-02-7P 321188-04-9P  
 321188-06-1P 321188-08-3P 321308-61-6P

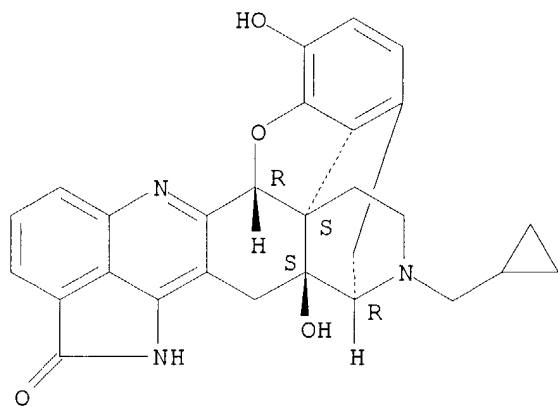
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of quinolinomorphinan derivs. for treatment of **frequent urination** or **urinary incontinence**)

RN 214043-73-9 CAPLUS

CN 4,8-Methano-5H-benzofuro[3,2-c]pyrido[3,4-b]pyrrolo[4,3,2-kl]acridin-11(10H)-one, 7-(cyclopropylmethyl)-6,7,8,8a,9,15b-hexahydro-1,8a-dihydroxy-, monohydrochloride, (4bS,8R,8aS,15bR)- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



● HCl

RN 214043-90-0 CAPLUS

CN 4,8-Methano-8aH-benzofuro[3,2-c]pyrido[3,4-b]acridine-1,8a-diol, 10-amino-5,6,7,8,9,15b-hexahydro-7-methyl-, (4bS,8R,8aS,15bR)-, dimethanesulfonate (salt) (9CI) (CA INDEX NAME)

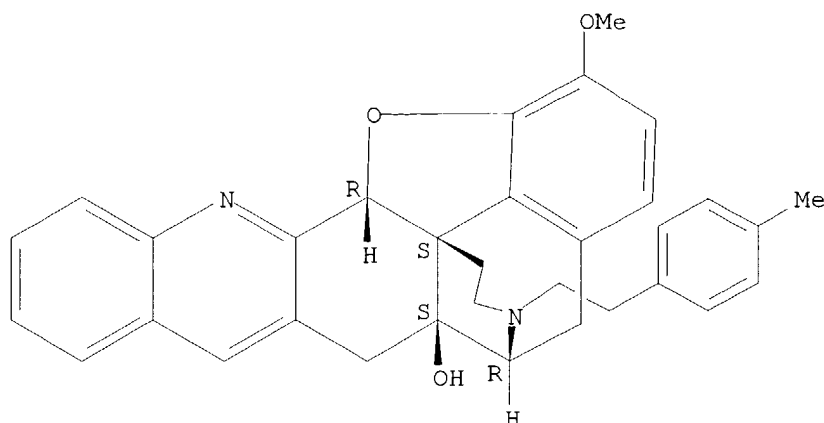
CM 1

CRN 214043-89-7

CMF C24 H23 N3 O3

Absolute stereochemistry.

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REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

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(FILE 'HOME' ENTERED AT 09:19:42 ON 09 JUL 2004)

FILE 'REGISTRY' ENTERED AT 09:20:09 ON 09 JUL 2004

L1 STRUCTURE UPLOADED

L2 6 S L1

L3 154 S L1 FULL

FILE 'CAPLUS' ENTERED AT 09:20:44 ON 09 JUL 2004

L4 9 S L3

L5 940 S FREQUENT URINATION OR URINARY INCONTINENCE

L6 1 S L4 AND L5

=> d ibib abs l4 1-9

L4 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2004:60515 CAPLUS

DOCUMENT NUMBER: 140:105310

TITLE: Therapeutic or preventive agent for nausea/vomiting

INVENTOR(S): Kawai, Koji; Saito, Akiyoshi; Suzuki, Tomohiko;

Hasebe, Ko; Suzuki, Tsutomu

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: PCT Int. Appl., 26 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2004007503	A1	20040122	WO 2003-JP8751	20030710
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY,				

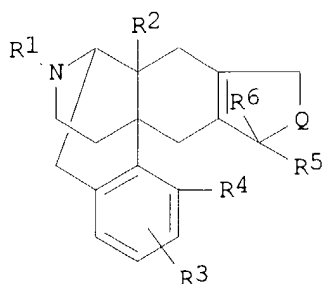
10/031,382

KG, KZ, MD, RU  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,  
CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,  
NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG

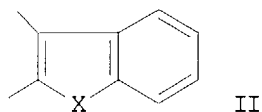
PRIORITY APPLN. INFO.: JP 2002-202657 A 20020711

OTHER SOURCE(S): MARPAT 140:105310

GI



I



II

AB A therapeutic or preventive agent for nausea/vomiting which contains as an active ingredient either a morphinane derivative represented by the general formula (I): (wherein R1 represents cyclopropylmethyl, etc.; R2 and R3 each represents hydroxy, methoxy, etc.; R4 and R5 are bonded to each other to form -O-, etc.; R6 represents hydrogen, etc.; and Q represents (II) which has been optionally substituted, etc., provided that X represents NH, NMe, etc.) or a pharmacol. acceptable acid addition salt thereof. The compound or salt is useful in a medicine widely applicable to vomiting caused by drugs having emetic activity, especially in a therapeutic or preventive agent for nausea/vomiting induced by  $\mu$  agonists represented by morphine.

REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

*Inventor*  
I4 ANSWER 2 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 2001:64001 CAPLUS

DOCUMENT NUMBER: 134:116111

TITLE: Preparation of quinolinomorphinan derivatives for treatment of frequent urination or urinary incontinence

INVENTOR(S): Tanaka, Toshiaki; Nagase, Hiroshi; Endoh, Takashi; Kawamura, Kuniaki; Fujimura, Morihiro; Komagata, Toshikazu

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: PCT Int. Appl., 40 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

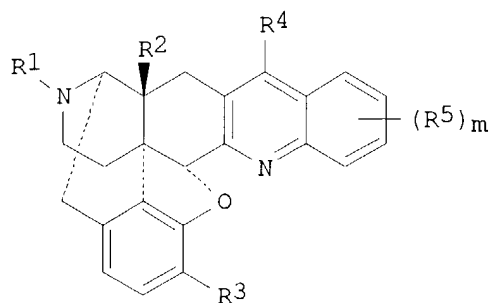
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2001005795	A1	20010125	WO 2000-JP4839	20000719
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR,				

10/031,382

HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT,  
LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU,  
SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN,  
YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY,  
DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ,  
CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG  
EP 1203771 A1 20020508 EP 2000-946400 20000719  
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,  
IE, SI, LT, LV, FI, RO, MK, CY, AL  
PRIORITY APPLN. INFO.: JP 1999-204809 A 19990719  
WO 2000-JP4839 W 20000719  
OTHER SOURCE(S): MARPAT 134:116111  
GI



I

AB Title compds. I (R1 = H, alkyl, cycloalkyl, aryl, aralkyl, etc.; R2, R3 = H, OH, alkanoyloxy, aralkyloxy, arylcarbonyloxy; R4 = H, alkyl, amino, etc.; R5 = substituent for the benzene ring; m = 0-4 ) and their pharmacol. acceptable acid addition salts, useful for treatment of frequent urination or urinary incontinence, are prepared Thus, stirring 17-methyl-6,7-dehydro-4,5 $\alpha$ -epoxy-3,14 $\beta$ -dihydroxy-6,7,2',3'-quinolinomorphinan with Ac2O and pyridine at room temperature for 16 h gave, after salt formation, 17-methyl-6,7-dehydro-4,5 $\alpha$ -epoxy-3,14 $\beta$ -diacetoxy-6,7,2',3'-quinolinomorphinan tartrate (II). II inhibited bladder contraction at 0.3 mg/kg i.v. in rats.

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1999:521108 CAPLUS

DOCUMENT NUMBER: 131:322799

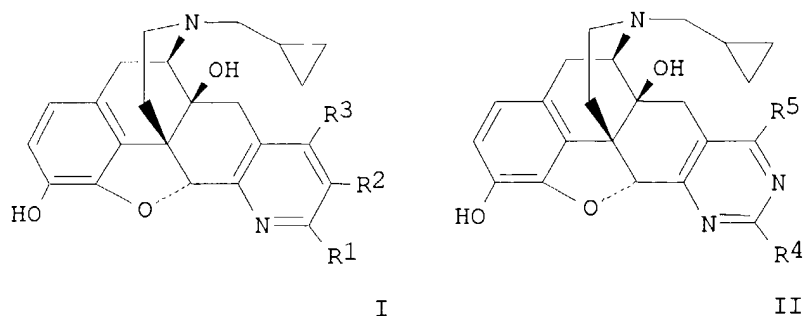
TITLE: Synthesis, Opioid Receptor Binding, and Biological Activities of Naltrexone-Derived Pyrido- and Pyrimidomorphinans

AUTHOR(S): Ananthan, Subramaniam; Kezar, Hollis S., III; Carter, Ronald L.; Saini, Surendra K.; Rice, Kenner C.; Wells, Jennifer L.; Davis, Peg; Xu, Heng; Dersch, Christina M.; Bilsky, Edward J.; Porreca, Frank; Rothman, Richard B.

CORPORATE SOURCE: Organic Chemistry Department, Southern Research Institute, Birmingham, AL, 35255, USA

SOURCE: Journal of Medicinal Chemistry (1999), 42(18), 3527-3538

CODEN: JMCMAR; ISSN: 0022-2623



AB A series of pyrido- and pyrimidomorphinans, e. g. I (R1 - R3 = H; R1 = Ph, R2 = R3 = H; R1 = R3 = H, R2 = Ph; R1 = R3 = H, R2 = C6H4Cl-4; R1 = H, Me, Ph, R2 = H, R3 = Ph; R1R2 = CH:CHCH:CH, R3 = Ph) and II (R4 = R5 = H; R4 = Me, Ph, R5 = H; R4 = H, Me, CH2Ph, Ph, R5 = Ph), resp., were synthesized from naltrexone and evaluated for binding and biol. activity at the opioid receptors. The unsubstituted pyridine I (R1 - R3 = H) displayed high affinities at opioid  $\delta$ ,  $\mu$ , and  $\kappa$  receptors with  $K_i$  values of 0.78, 1.5, and 8.8 nM, resp. Compound I (R1 - R3 = H) was devoid of agonist activity in the mouse vas deferens (MVD) and guinea pig ileum (GPI) preps. but was found to display moderate to weak antagonist activity in the MVD and GPI with  $K_e$  values of 37 and 164 nM, resp. The pyrimidomorphinans in general displayed lower binding potencies and  $\delta$  receptor binding selectivities than their pyridine counterparts. Incorporation of aryl groups as putative  $\delta$  address mimics on the pyrido- and pyrimidomorphinan framework gave ligands with significant differences in binding affinity and intrinsic activity. Attachment of a Ph group at the 4'-position of I (R1 - R3 = H) or the equivalent 6'-position of II (R4 = R5 = H) led to dramatic reduction in binding potencies at all the three opioid receptors, indicating the existence of a somewhat similar steric constraint at the ligand binding sites of  $\delta$ ,  $\mu$ , and  $\kappa$  receptors. In contrast, the introduction of a Ph group at the 5'-position of I (R1 - R3 = H) did not cause any reduction in the binding affinity at the  $\delta$  receptor. In comparison to the unsubstituted pyridine I (R1 - R3 = H), the 5'-phenylpyridine I (R1 = R3 = H, R2 = Ph) showed improvements in  $\mu/\delta$  and  $\kappa/\delta$  binding selectivity ratios as well as in the  $\delta$  antagonist potency in the MVD. Interestingly, introduction of a chlorine atom at the para position of the pendant 5'-Ph group of I (R1 = R3 = H, R2 = Ph) not only provided further improvements in  $\delta$  antagonist potency in the MVD but also shifted the intrinsic activity profile of I (R1 = R3 = H, R2 = Ph) from an antagonist to that of a  $\mu$  agonist in the GPI. Compound I (R1 = R3 = H, R2 = C6H4Cl-4) thus possesses the characteristics of a nonpeptide  $\mu$  agonist/ $\delta$  antagonist ligand with high affinity at the  $\delta$  receptor ( $K_i$  = 2.2 nM), high antagonist potency in the MVD ( $K_e$  = 0.66 nM), and moderate agonist potency in the GPI ( $IC_{50}$  = 163 nM). Antinociceptive evaluations in mice showed that intracerebroventricular (icv) injections of I (R1 = R3 = H, R2 = C6H4Cl-4) produced a partial agonist effect in the 55 °C tail-flick assay and a full agonist effect in the acetic acid writhing assay ( $A_{50}$  = 7.5 nmol). No signs of overt toxicity were observed with this compound in the dose ranges tested. Moreover, repeated icv injections of an  $A_{90}$  dose did not induce any significant development of

antinociceptive tolerance in the acetic acid writhing assay. The potent  $\delta$  antagonist component of this mixed  $\mu$  agonist/ $\delta$  antagonist may be responsible for the diminished propensity to produce tolerance that this compound displays.

REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1998:682250 CAPLUS

DOCUMENT NUMBER: 129:276082

TITLE: Preparation of quinolinomorphinan derivatives for treatment and prevention of brain disorders

INVENTOR(S): Nagase, Hiroshi; Imamura, Yoshifumi; Ohno, Hiroshi; Kaneeda, Masanobu; Matsuda, Susumu; Miyauchi, Yasushi

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: PCT Int. Appl., 131 pp.

CODEN: PIXXD2

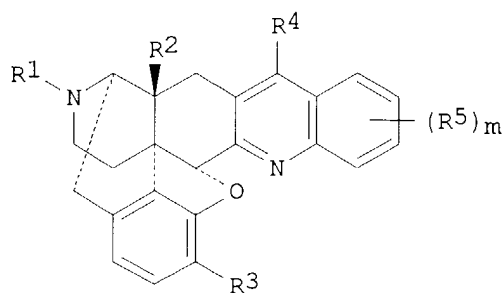
DOCUMENT TYPE: Patent

LANGUAGE: Japanese

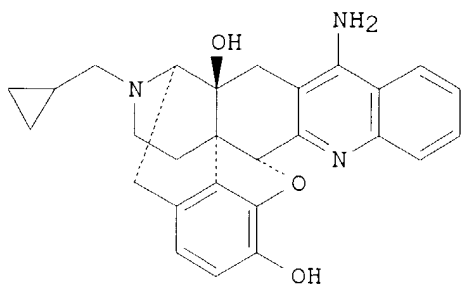
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9843977	A1	19981008	WO 1998-JP1443	19980330
W: AU, CA, CN, JP, KR, NO, NZ, US				
RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
CA 2256336	AA	19981008	CA 1998-2256336	19980330
AU 9865201	A1	19981022	AU 1998-65201	19980330
EP 911334	A1	19990428	EP 1998-911102	19980330
R: CH, DE, FR, GB, IT, LI, NL, SE				
TW 519543	B	20030201	TW 1998-87104743	19980330
US 6172078	B1	20010109	US 1999-194538	19990113
PRIORITY APPLN. INFO.:			JP 1997-81756	A 19970331
			WO 1998-JP1443	W 19980330
OTHER SOURCE(S):		MARPAT 129:276082		
GI				



I



II

AB Quinolinomorphinan derivs. [I; R1 = cyclopropylmethyl, etc.; R2 and R3 represent each OH, MeO, etc.; R4 = H, Me, NH2, etc.; and (R5)m = H, substituted benzo, etc.; m = 0-4 integer] or their pharmacol. acceptable acid addition salts, useful for treating and preventing brain disorders, are prepared Because of having excellent preventive effects on cranial nerve cell disorders, these compds. inhibit various ischemic, hemorrhagic or traumatic brain disorders and cranial nerve cell disorders caused by various nerve degeneration and are thus useful as drugs for treating and preventing various brain diseases such as cerebral stroke, traumatic brain diseases, brain edema and cranial nerve degeneration diseases, ameliorating the after troubles of these diseases and preventing the recurrence of the same. Thus, 17-cyclopropylmethyl-6-oxo-4,5 $\alpha$ -epoxy-3,14 $\beta$ -dihydroxymorphinan was refluxed with o-aminobenzonitrile in AcOH for 25 to give, after treatment with aqueous NaHCO<sub>3</sub>, 37% the title compound

II, isolated as the hydrochloride salt. This at 0.3 mg/Kg i.p. inhibited brain artery occlusion by 56%.

REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 5 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1995:774802 CAPLUS

DOCUMENT NUMBER: 123:160834

TITLE: Treatment of immunoregulatory disorders with selective  $\delta$  opioid receptor antagonists

INVENTOR(S): Portoghese, Philip S.; Sharp, Burt M.; Linner, Kristin M.

PATENT ASSIGNEE(S): Regents of the University of Minnesota, USA; Minneapolis Medical Research Foundation

SOURCE: PCT Int. Appl., 44 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

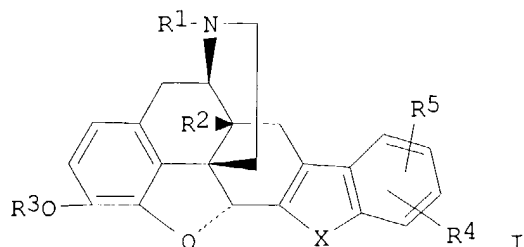
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9513071	A2	19950518	WO 1994-US12844	19941108
WO 9513071	A3	19950608		
W:	AM, AT, AU, BB, BG, BR, BY, CA, CH, CN, CZ, DE, DK, EE, ES, FI, GB, GE, HU, JP, KE, KG, KP, KR, KZ, LK, LR, LT, LU, LV, MD, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU, SD, SE, SI, SK, TJ, TT, UA, UZ, VN			
RW:	KE, MW, SD, SZ, AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG			
US 5464841	A	19951107	US 1993-149039	19931108
CA 2176013	AA	19950518	CA 1994-2176013	19941108
AU 9511731	A1	19950529	AU 1995-11731	19941108
EP 727999	A1	19960828	EP 1995-902471	19941108
R:	DE, FR, GB			
JP 09505052	T2	19970520	JP 1994-513938	19941108
US 5631263	A	19970520	US 1995-450010	19950525
PRIORITY APPLN. INFO.:			US 1993-149039	19931108
			WO 1994-US12844	19941108

OTHER SOURCE(S): MARPAT 123:160834

GI





AB A therapeutic method is provided to elevate a depressed mammalian autologous mixed lymphocyte response (AMLR) and to alleviate the disease associated therewith by the administration of an effective amount of certain selective  $\delta$  opioid receptor antagonists to a mammal, e.g. a human patient, in need of such treatment. Compds. I [R1 = C1-5 alkyl, C3-6 (cycloalkyl)alkyl, C5-7 (cycloalkenyl)alkyl, aryl, aralkyl, trans (C4-5) alkenyl, allyl, furan-2-ylalkyl; R2 = H, OH, O2C(C1-5)alkyl; R3 = H, C1-5 alkyl, (C1-5 alkyl)CO; R4, R5 = H, F, Cl, Br, NCS, NO2, NH2, C1-5 alkyl, C1-5 alkoxy, or together are benzo; X = O, S, NY (Y = H, C1-5 alkyl, (R4)(R5)benzo)], and pharmaceutically acceptable salts thereof, are disclosed for preparation of a medicament to elevate the AMLR of a mammal afflicted with a disease characterized by a depressed AMLR; the disease may be a viral infection, rheumatoid arthritis, chronic lymphocytic leukemia, etc. Preparation of 7-benzylidene-7-dehydronaltrexone and related compds. is described, as are e.g. evaluation of antagonist activity and the effect of naltrindole on depressed AMLR in murine cytomegalovirus infection.

L4 ANSWER 6 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1994:595925 CAPLUS  
 DOCUMENT NUMBER: 121:195925  
 TITLE: Antitussive  $\delta$ -opioid antagonists  
 INVENTOR(S): Nagase, Hiroshi; Kamei, Junzo; Kaway, Koji; Endo, Takashi  
 PATENT ASSIGNEE(S): Toray Industries, Inc., Japan  
 SOURCE: PCT Int. Appl., 131 pp.  
 CODEN: PIXXD2  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9414445	A1	19940707	WO 1993-JP1855	19931222
W: AU, CA, FI, JP, KR, NO, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
AU 9457156	A1	19940719	AU 1994-57156	19931222
AU 674379	B2	19961219		
EP 636371	A1	19950201	EP 1994-903039	19931222
EP 636371	B1	19980520		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
CN 1099617	A	19950308	CN 1993-119935	19931222
CN 1071117	B	20010919		
AT 166229	E	19980615	AT 1994-903039	19931222
NO 9403070	A	19941021	NO 1994-3070	19940819
US 5714483	A	19980203	US 1994-290837	19941013
PRIORITY APPLN. INFO.:			JP 1992-341947	A 19921222

WO 1993-JP1855 W 19931222

OTHER SOURCE(S): MARPAT 121:195925

AB An antitussive comprises a  $\delta$ -opioid antagonist (preparation given) or a pharmacol. acceptable salt thereof as active ingredient. It has a potent activity, does not give side effects such as impaired mentation, and can be administered perorally.

L4 ANSWER 7 OF 9 CAPLUS COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER: 1991:574658 CAPLUS

DOCUMENT NUMBER: 115:174658

TITLE: Immunosuppressant and process for preparing the same

INVENTOR(S): Nagase, Hiroshi; Kawai, Koji; Matsumoto, Shu; Endoh, Takashi; Katsura, Yoshiaki; Arakawa, Kohei

PATENT ASSIGNEE(S): Toray Industries, Inc., Japan

SOURCE: PCT Int. Appl., 40 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

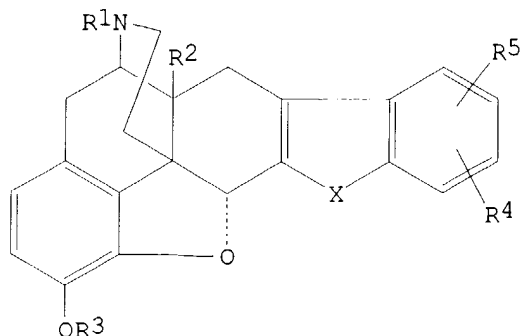
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9107966	A1	19910613	WO 1990-JP1541	19901128
W: AU, CA, FI, KR, NO, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
JP 03223288	A2	19911002	JP 1990-327453	19901127
JP 2906654	B2	19990621		
CA 2045481	AA	19910529	CA 1990-2045481	19901128
CA 2045481	C	19951114		
AU 9168768	A1	19910626	AU 1991-68768	19901128
AU 639053	B2	19930715		
EP 456833	A1	19911121	EP 1990-917694	19901128
EP 456833	B1	19950301		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
ES 2069100	T3	19950501	ES 1990-917694	19901128
NO 9102940	A	19910729	NO 1991-2940	19910729
US 5332818	A	19940726	US 1993-34669	19930322
PRIORITY APPLN. INFO.:			JP 1989-308491	19891128
			JP 1989-322160	19891211
			JP 1989-326941	19891215
			WO 1990-JP1541	19901128
			US 1991-721639	19910726

OTHER SOURCE(S): MARPAT 115:174658

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AB    Immunosuppressant activities are shown by  $\delta$ -opioid antagonists I [R1 = C1-5 alkyl, C3-6 cycloalkylalkyl, C5-7 cycloalkenylalkyl, etc.; R2 = H, OH, C1-5 alkanoyloxy; R3 = H, C1-5 alkyl, C1-5 alkanoyl; X = O, S, YN (Y = H, C1-5 alkyl); R4, R5 = H, F, Cl, Br, NH2, NO2, etc.]. Thus, naloxone-HCl and phenylhydrazine were dissolved in EtOH and treated with methanesulfonate to give a naloxoyindolemethanesulfonate salt. The inhibitory activities of 24 I compds. on the growth and differentiation of mouse spleen cells in vitro were demonstrated.

L4    ANSWER 8 OF 9    CAPLUS    COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:        1991:220759    CAPLUS

DOCUMENT NUMBER:        114:220759

TITLE:                    Role of spacer and address components in  
                          peptidomimetic  $\delta$ -opioid receptor antagonists  
                          related to naltrindole

AUTHOR(S):                Portoghese, P. S.; Nagase, H.; MaloneyHuss, K. E.;  
                          Lin, C. E.; Takemori, A. E.

CORPORATE SOURCE:        Coll. Pharm., Univ. Minnesota, Minneapolis, MN, 55455,  
                          USA

SOURCE:                  Journal of Medicinal Chemistry (1991), 34(5), 1715-20  
                          CODEN: JMCMAR; ISSN: 0022-2623

DOCUMENT TYPE:            Journal

LANGUAGE:                English

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY -    AVAILABLE VIA OFFLINE PRINT \*

AB    A series of naltrindole (I) heterocyclic analogs (II,III,IV,V) and 6-arylnaltrexone derivs. (VI,VII,VIII) were prepared to determine the role of the

spacer and the address moieties in conferring  $\delta$  opioid receptor antagonist activity. II, III and IV were  $\delta$ -selective opioid antagonists in vitro and bound selectively to  $\delta$  receptors. The tetrahydroindole derivative (V), while  $\delta$  selective, was considerably less potent than its indole analog (IX). The data for II-IV indicate that heterocycles other than pyrrole can serve as a spacer for the  $\delta$  address moiety. Moreover, the lower  $\delta$  antagonist potency of V illustrates the importance of the aromatic address component. Mol. dynamics simulations of enkephalin using a zipper binding model are consistent with a  $\delta$  address subsite that may accommodate the benzene moiety of I or the Phe4 Ph group of leucine-enkephalin. The considerably lower  $\delta$  opioid receptor antagonist potencies of VI-VIII are consistent with the conformational mobility of the aryl group and its location in the mol.

L4    ANSWER 9 OF 9    CAPLUS    COPYRIGHT 2004 ACS on STN

ACCESSION NUMBER:        1989:515661    CAPLUS

DOCUMENT NUMBER:        111:115661

TITLE:                    Preparation and testing of  
                          benzopyrazinoepoxymorphinans and related compounds as  
                           $\delta$ -opioid receptor antagonists

INVENTOR(S):             Portoghese, Philip S.

PATENT ASSIGNEE(S):      University of Minnesota, USA

SOURCE:                  PCT Int. Appl., 25 pp.

CODEN: PIXXD2

DOCUMENT TYPE:            Patent

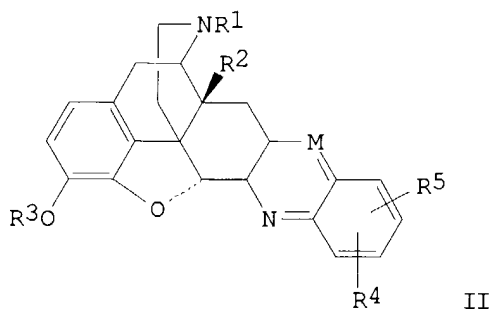
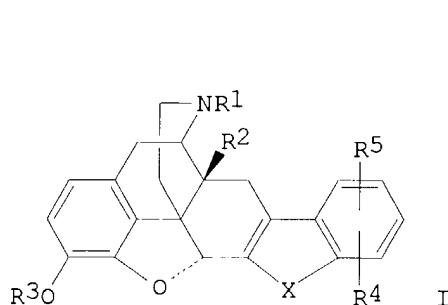
LANGUAGE:                English

FAMILY ACC. NUM. COUNT:    1

10/031,382

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 8900995	A1	19890209	WO 1988-US2322	19880711
W: DK, FI, JP, KR, NO				
RW: AT, BE, CH, DE, FR, GB, IT, LU, NL, SE				
US 4816586	A	19890328	US 1987-79216	19870729
PRIORITY APPLN. INFO.:			US 1987-79216	19870729
OTHER SOURCE(S):		CASREACT 111:115661; MARPAT 111:115661		
GI				



AB The title compds. (I and II; R1 = C1-5 alkyl, C3-6 cycloalkylalkyl, C5-7 cycloalkenylalkyl, aryl, aralkyl, C4-5 trans-alkenyl, allyl, 2-furanylalkyl; R2 = H, OH, carboxyalkyl; R3 = H, C1-5 alkyl, alkanoyl; R4, R5 = H, F, Cl, Br, NH2, NO2, C1-5 alkyl, alkoxy; R4R5 = CH:CHCH:CH; M = N, CH; X = O, S, NH), useful as  $\delta$ -opioid receptor antagonists, were prepared Naltrexone-HCl and PhNHNH2.HCl were refluxed 4 h in HCl-saturated MeOH to give 71% I (R1 = cyclopropylmethyl, R2 = OH, R3-R5 = H, X = NH) (III). III antagonized [D-Ala2, D-Leu5]-enkephalin in mouse vas deferens with a Ke of 0.22, but showed Ke of 29.4 for antagonism of morphine and 45.5 for antagonism of ethylketazocine in guinea pig ileum prepns. III is more potent than ICI 174864 and more selective than M8008.

=> d his

(FILE 'HOME' ENTERED AT 09:19:42 ON 09 JUL 2004)

FILE 'REGISTRY' ENTERED AT 09:20:09 ON 09 JUL 2004

L1 STRUCTURE UPLOADED

L2 6 S L1

L3 154 S L1 FULL

FILE 'CAPLUS' ENTERED AT 09:20:44 ON 09 JUL 2004

L4 9 S L3

L5 940 S FREQUENT URINATION OR URINARY INCONTINENCE

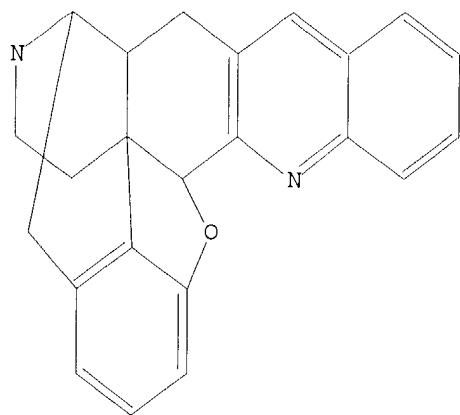
L6 1 S L4 AND L5

=> d 11

L1 HAS NO ANSWERS

L1 STR

10/031,382



Structure attributes must be viewed using STN Express query preparation.

=>



## PALM INTRANET

Day : Friday  
Date: 7/9/2004  
Time: 08:32:27

## Inventor Name Search Result

Your Search was:

Last Name = TANAKA

First Name = TOSHIAKI

Application#	Patent#	Status	Date Filed	Title	Inventor Name 51
<u>60378955</u>	Not Issued	159	05/10/2002	NOVEL GENES RELATING TO PAIN AND USE OF THE GENES FOR PHARMACEUTICALS	TANAKA, TOSHIAKI
<u>29164915</u>	<u>D475726</u>	150	08/02/2002	ENGINE DRIVEN WELDING MACHINE	TANAKA, TOSHIAKI
<u>10455383</u>	<u>6681566</u>	150	06/06/2003	EXHAUST PURIFYING METHOD AND APPARATUS OF AN INTERNAL COMBUSTION ENGINE	TANAKA, TOSHIAKI
<u>10452636</u>	Not Issued	030	06/03/2003	EXHAUST GAS PURIFYING METHOD, EXHAUST GAS PURIFYING APPARATUS, AND EXHAUST GAS COLLECTING APPARATUS OF INTERNAL COMBUSTION ENGINE	TANAKA, TOSHIAKI
<u>10434156</u>	Not Issued	030	05/09/2003	NOVEL GENES RELATING TO PAIN AND USE OF THE GENES FOR PHARMACEUTICALS	TANAKA, TOSHIAKI
<u>10410386</u>	Not Issued	051	04/10/2003	EXHAUST EMISSION CONTROL SYSTEM OF AN INTERNAL COMBUSTION ENGINE	TANAKA, TOSHIAKI
<u>10405647</u>	Not Issued	041	04/03/2003	INTERNAL COMBUSTION ENGINE EMISSION CONTROL APPARATUS AND METHOD	TANAKA, TOSHIAKI
<u>10395344</u>	Not Issued	030	03/25/2003	METHOD OF AND COMPUTER PROGRAM PRODUCT FOR MONITORING PERSON'S	TANAKA, TOSHIAKI

				MOVEMENTS	
<u>10395343</u>	Not Issued	020	03/25/2003	METHOD OF AND SYSTEM FOR MONITORING BEHAVIOR OF GROUP OF PERSONS, AND COMPUTER PROGRAM PRODUCT	TANAKA, TOSHIAKI
<u>10363388</u>	Not Issued	030	03/03/2003	NOX ABSORBING AGENT AND ABSORPTION REDUCTION TYPE CATALYST FOR REMOVING NOX	TANAKA, TOSHIAKI
<u>10363035</u>	Not Issued	020	10/16/2003	METHOD AND UNIT FOR THE TRANSPORT OF RICE	TANAKA, TOSHIAKI
<u>10362994</u>	Not Issued	061	03/03/2003	ABSORPTION REDUCTION-TYPE NOX PURIFYING CATALYST	TANAKA, TOSHIAKI
<u>10332217</u>	Not Issued	168	01/03/2003	THERAPEUTIC OR PREVENTIVE MEDICINES FOR MOOD DISORDERS OR ANXIETY DISORDERS	TANAKA, TOSHIAKI
<u>10311016</u>	Not Issued	093	12/12/2002	EXHAUST GAS PURIFICATION APPARATUS	TANAKA, TOSHIAKI
<u>10307311</u>	Not Issued	041	12/02/2002	EXHAUST GAS PURIFICATION DEVICE	TANAKA, TOSHIAKI
<u>10259894</u>	Not Issued	093	09/30/2002	EXHAUST GAS PURIFYING APPARATUS FOR INTERNAL COMBUSTION ENGINE AND CONTROL METHOD THEREOF	TANAKA, TOSHIAKI
<u>10259560</u>	<u>6708486</u>	150	09/30/2002	EXHAUST GAS PURIFICATION DEVICE OF INTERNAL COMBUSTION ENGINE	TANAKA, TOSHIAKI
<u>10252822</u>	Not Issued	030	09/24/2002	OUTPUT TERMINAL MANAGEMENT SERVER AND OUTPUT TERMINAL FUNCTION SETTING METHOD	TANAKA, TOSHIAKI
<u>10243914</u>	Not Issued	161	09/16/2002	CATALYST WARMING APPARATUS OF INTERNAL COMBUSTION ENGINE	TANAKA, TOSHIAKI
<u>10220846</u>	Not Issued	071	09/06/2002	RESIN COMPOSITION, HEAT-RESISTANT RESIN PASTE AND SEMICONDUCTOR DEVICE	TANAKA, TOSHIAKI

				USING THEM AND METHOD FOR MANUFACTURE THEREOF	
<u>10218913</u>	Not Issued	030	08/15/2002	IMAGE REPRODUCING APPARATUS AND IMAGE REPRODUCING METHOD	TANAKA, TOSHIAKI
<u>10162662</u>	Not Issued	030	06/06/2002	APPARATUS AND METHOD OF CONTROLLING PLURAL PROCESSING MODULES	TANAKA, TOSHIAKI
<u>10160872</u>	Not Issued	030	05/31/2002	APPARATUS FOR PREPARING MICROARRAYS	TANAKA, TOSHIAKI
<u>10150942</u>	Not Issued	061	05/21/2002	PC-CARD DATA COMMUNICATION APPARATUS	TANAKA, TOSHIAKI
<u>10106239</u>	<u>6655133</u>	150	03/27/2002	EXHAUST GAS PURIFIER FOR INTERNAL COMBUSTION ENGINE	TANAKA, TOSHIAKI
<u>10088477</u>	<u>6644023</u>	150	03/20/2002	EXHAUST EMISSION CONTROL DEVICE OF INTERNAL COMBUSTION ENGINE	TANAKA, TOSHIAKI
<u>10068003</u>	<u>6618239</u>	150	02/08/2002	KEY SWITCH AND KEYBOARD	TANAKA, TOSHIAKI
<u>10031382</u>	Not Issued	030	03/18/2002	REMEDIES OR PREVENTIVE FOR FREQUENT URINATION OR URINARY INCONTINENCE	TANAKA, TOSHIAKI
<u>10020098</u>	Not Issued	030	12/18/2001	METHOD AND APPARATUS FOR EXTRACTING TEXT INFORMATION FROM MOVING IMAGE	TANAKA, TOSHIAKI
<u>09979064</u>	<u>6644022</u>	150	11/16/2001	EXHAUST GAS PURIFICATION DEVICE OF INTERNAL COMBUSTION ENGINE	TANAKA, TOSHIAKI
<u>09959672</u>	<u>6668548</u>	150	11/02/2001	EXHAUST EMISSION CONTROL DEVICE OF INTERNAL COMBUSTION ENGINE	TANAKA, TOSHIAKI
<u>09817187</u>	<u>6568178</u>	150	03/27/2001	DEVICE FOR PURIFYING THE EXHAUST GAS OF AN INTERNAL COMBUSTION ENGINE	TANAKA, TOSHIAKI
<u>09814806</u>	<u>6510686</u>	150	03/23/2001	EXHAUST GAS PURIFIER	TANAKA,



				FOR INTERNAL COMBUSTION ENGINE AND METHOD FOR PURIFYING EXHAUST GAS	TOSHIAKI
<u>09785480</u>	<u>6697405</u>	150	02/20/2001	VERTICAL CAVITY SURFACE EMITTING LASERS, OPTICAL MODULES AND SYSTEMS	TANAKA, TOSHIAKI
<u>09783562</u>	<u>6731721</u>	150	02/15/2001	TELEPHONE EXCHANGE APPARATUS	TANAKA, TOSHIAKI
<u>09763192</u>	<u>6404068</u>	150	02/20/2001	PASTE COMPOSITION, AND PROTECTIVE FILM AND SEMICONDUCTOR DEVICE BOTH OBTAINED WITH THE SAME	TANAKA, TOSHIAKI
<u>09744577</u>	<u>6611064</u>	150	04/05/2001	SEMICONDUCTOR DEVICE AND METHOD FOR MANUFACTURING THE SAME	TANAKA, TOSHIAKI
<u>08911811</u>	<u>5839275</u>	150	08/15/1997	FUEL INJECTION CONTROL DEVICE FOR A DIRECT INJECTION TYPE ENGINE	TANAKA, TOSHIAKI
<u>08898816</u>	<u>5908993</u>	150	07/23/1997	AN APPRATUS FOR MEASURING TOTAL SURFACE AREA OF A PORTION OF CATALYTIC METAL PARTICLES	TANAKA, TOSHIAKI
<u>08388221</u>	Not Issued	161	02/13/1995	HUMAN CD26 AND METHODS FOR USE	TANAKA, TOSHIAKI
<u>08107907</u>	<u>5316513</u>	150	08/18/1993	ELECTROTHERMAL COLOR-VARYING DEVICE AND TOY UTILIZING THE SAME	TANAKA, TOSHIAKI
<u>08099652</u>	<u>5451724</u>	150	07/30/1993	A TOUCH PANEL FOR DETECTING A COORDINATE OF AN ARBITRARY POSITION WHERE PRESSURE IS APPLIED	TANAKA, TOSHIAKI
<u>08097794</u>	<u>5433074</u>	150	07/26/1993	EXHAUST GAS PURIFICATION DEVICE FOR AN ENGINE	TANAKA, TOSHIAKI
<u>08094799</u>	<u>5402641</u>	150	07/20/1993	EXHAUST GAS PURIFICATION APPARATUS FOR AN INTERNAL COMBUSTION ENGINE	TANAKA, TOSHIAKI

<u>07832211</u>	Not Issued	161	02/06/1992	HUMAN CD26 AND METHODS FOR USE	TANAKA , TOSHIAKI
<u>07540648</u>	<u>5100612</u>	150	06/19/1990	SPHEROIDAL GRAPHITE CAST IRON	TANAKA , TOSHIAKI
<u>07231820</u>	<u>4945199</u>	250	08/25/1988	ELECTRIC DISCHARGE MACHINING METHOD AND DEVICE	TANAKA , TOSHIAKI
<u>06534258</u>	Not Issued	161	09/21/1983	SWIRL CHAMBER FOR INTERNAL COMBUSTION ENGINE	TANAKA , TOSHIAKI
<u>06527775</u>	<u>4530324</u>	150	08/30/1983	FUEL INJECTION PUMP FOR AN INTERNAL COMBUSTION ENGINE	TANAKA , TOSHIAKI
<u>06292913</u>	<u>4498256</u>	150	08/14/1981	ITEM INPUT DEVICE FOR A DATA PROCESSING SYSTEM	TANAKA , TOSHIAKI
<u>06100747</u>	<u>4292938</u>	150	12/06/1979	INTERNAL COMBUSTION ENGINE	TANAKA , TOSHIAKI

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